



ENDANGERED SPECIES TECHNICAL BULLETIN

Department of the Interior • U.S. Fish and Wildlife Service • Endangered Species Program, Washington, D.C. 20240

Reclassification of Alligator Proposed

The American alligator (*Alligator mississippiensis*) has responded so well to Federal and State protection in Louisiana that the Service believes reclassification of the species to Threatened (similarity of appearance) may now be warranted in nine Louisiana parishes (F.R. 10/2/78).

Since receiving full protection under the Endangered Species Conservation Act of 1966, the alligator's improved status has led to its reclassification as Threatened or Threatened (similarity of appearance) in much of its range (F.R. 9/26/78 and 1/10/77, respectively). Evidence of dramatic increases in the Cameron, Calcasieu, and Vermillion Parishes prompted the Service to reclassify the alligator to the less restrictive Threatened (similarity of appearance) category in 1977.

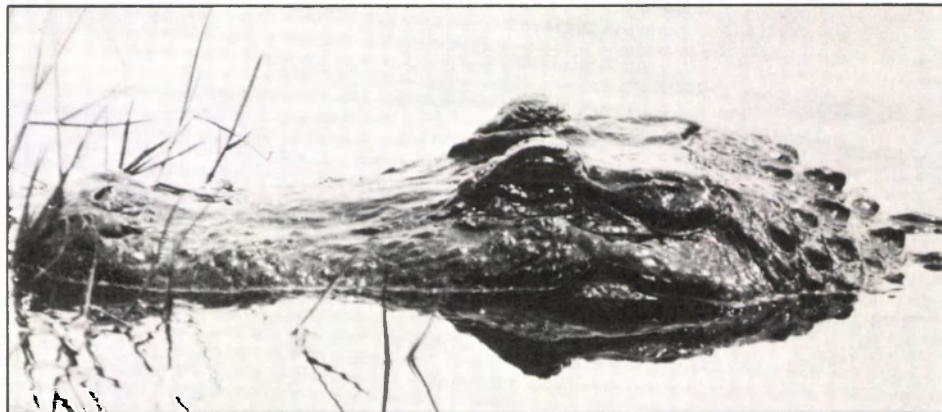
(Under the Endangered Species Act of 1973, a species may be treated under similarity of appearance (S/A) provisions when it so closely resembles an Endangered or Threatened species that the similarity of appearance impairs enforcement efforts, thereby posing an additional threat to the listed species.)

On July 30, 1976, Governor Edwin Edwards of Louisiana petitioned the Service to delist the American alligator throughout the State's southern parishes. Following the receipt of data on the species' status from many sources (with all conclusive supporting documentation received in June 1978), the Service has opted to propose reclassification again under S/A provisions in the Iberia, St. Mary, Terrebonne, Lafourche, St. Charles, Jefferson, Plaquemines, St. Bernard, and St. Tammany Parishes, where an estimated 127,000 alligators were believed to occur in 1976.

Regulations over Commerce to be Revised

While the taking of alligators in a total of 12 parishes of Louisiana would be permitted upon adoption of this ruling, some restriction of commercial activities involving alligator products will be necessary to insure the protection of alligator populations that are Threatened or Endangered (and indistinguishable from specimens in these parishes). In reviewing its existing enforcement program relating to the regulation of lawful commercialization of alligator hides, the Service has determined that the present permit process

can be substantially simplified without impairing its objectives. It is therefore proposed that provisions requiring the submission of detailed information about an applicant's background, methods of operation, and previous wildlife violations be eliminated. While reducing the burden for those seeking tanner's licenses in these areas, the Service proposes to revise existing regulations by requiring the marking of all hides on their underside to facilitate identification by enforcement personnel throughout the tanning fabrication process. (Existing marking requirements and recordkeeping requirements would also be somewhat revised.) The hides must bear a non-corrodible numbered tag from the state of origin, and all shipping crates must
(continued on page 7)



Fish & Wildlife Service Photo

U.S. Proposes Changes To Convention Appendices

Following the review of U.S. species listed under the Convention on International Trade in Endangered Species of Wild Fauna and Flora, the Service has submitted a U.S. proposal to reclassify 18 species of animals and birds covered by the treaty (F.R. 11/27/78).

The recommendations, submitted to the Convention Secretariat in October by the U.S. Management Authority for consideration by its member countries at their next full meeting in Costa Rica this March, were based on examination criteria adopted by the parties at
(continued on page 8)

Amendments "Update"

Secretary Andrus has identified implementation of the Endangered Species Act Amendments of 1978 as a high priority responsibility for the Department in the coming months. In this regard, the Secretary has directed the implementation of several procedural and administrative details under the authority granted by the new amendments:

- A small executive staff, capable of drawing on all available expertise, will serve the Secretary in the initial review of exemption applications and appointment of review boards, and will provide administrative support for the Committee. The staff is to be based in the Office of the Assistant Secretary for Policy, Budget, and Administration.

- The Secretary will determine on a case-by-case basis which State or States are to be the "affected States"

to be represented on the Endangered Species Committee and the Review Board to consider exemption applications. Andrus will consider economic and environmental impacts in designating any State as "affected."

- With regard to the casting of the single State vote on the Endangered Species Committee, the Secretary has determined that this decision should be left to the State representatives appointed to the Committee by the President.

- Proposed regulations on the submission of exemption applications and initial consideration of applications and processing by the review board are to be promulgated within 90 days of enactment of the amendments. Regulations governing Committee procedures are to follow as early as practicable.

Program Progress

The Endangered Species Program Manager reports the following progress in meeting the amendments' stipulations and related Departmental goals:

- Separate proposed regulations on (1) interagency cooperation under the amended Section 7 of the Act, (2) the review of exemption applications, and (3) Endangered Species Committee operating procedures have been drafted and are now undergoing review within the Department.

- Proposed regulations for amending the lists of Endangered and Threatened species and determining Critical Habitat (under Section 4 of the Act) in accord with requirements of the new amendments are now being drafted and will be ready for internal review shortly.

- The Biological Opinion on the Grayrocks dam and power project was issued by the Service on December 8. (Details of the opinion will be covered in the December 1978 BULLETIN.) Copies have been forwarded to the Endangered Species Committee for review. (According to the mandates of the amendments, the Committee was to begin consideration of the Grayrocks and Tellico dam projects within 30 days after enactment, or on December 11, 1978.)

- With regard to the State vote for Grayrocks on the Endangered Species Committee, the Secretary has determined that two States are "affected" by the proposed Federal action: Nebraska and Wyoming.

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Reprints of 1973 Act and Species List To Be Available

The Office of Legislative Services has put together a compilation of the 1973 Endangered Species Act inclusive of amendments through November 1978. Copies may be ordered through the Office of Publications, U.S. Fish and Wildlife Service, Department of the Interior, Washington, D.C. 20240.

Additionally, the updated U.S. List of Endangered and Threatened Animals and Plants was published in the December 11, 1978, *Federal Register*. Copies of the list will also be available from the Service's Publications Office.

Rare and Endangered Species Broadly Covered under Florida's Conservation Plan

Game & Fresh Water
Fish Commission
Department of Natural
Resources

1978 survey results are in, and Florida's Endangered Species Coordinator has news about one of the State's rarest mammals. "We finally have solid evidence that the panther survives in Florida."

Expressing his confidence in the findings following investigations conducted this year by the Florida Game and Fresh Water Fish Commission, Don Wood tells us that two separate populations of Florida panther (*Felis concolor coryi*) are now believed to exist in the eastern- and western-most reaches of Florida's Big Cypress Swamp. Some of the conclusive evidence resulted from investigations of many of the 752 panther reports received by the State agency through its newly established Panther Record Clearinghouse.

One of 30 subspecies of cougar that once ranged from eastern Texas through the Southeastern States, the presence of this predator in Florida has been questionable in recent years. The panther was bountied in the State for more than one hundred years before it received partial protection in 1950, and Florida officials cite overhunting as the major cause of its decline.

Although additional studies are needed to determine the distribution and viability of the reported populations, Wood now hopes there may still be time to save this critically Endangered species from extinction. (The two populations represent only 10-15 animals.)

The Florida panther survey is only one of 22 projects undertaken by the State of Florida, where endangered species conservation has long been a special challenge to wildlife managers. Similar in many respects to a delicate island ecosystem, this unique peninsula of land and water is rich in a diversity of wildlife. But Florida's tally of endangered life forms is among the highest in the Nation. Together, Federal and State endangered species laws now give protection to 96 species of wildlife endemic to the Sunshine State.

The ever-increasing human population has pushed many of the State's species of wildlife, like the panther and the Dusky seaside sparrow, into

smaller or unsuitable habitat, while—on another front—Florida officials must work to cope with increasing reports of conflicts between humans and another protected species, the American alligator.

Early Conservation Ethic

One of the first eleven States to sign a cooperative agreement with the Service for Endangered Species Grant-in-Aid assistance in 1976, Florida has been well into endangered species conservation since 1972, when its Game and Fresh Water Fish Commission promulgated a list of rare fauna in the State and afforded the included species legal protection. Subsequently, the input of Florida's scientific community was recruited with the Commission's appointment of an Endangered Species Technical Advisory Committee in 1974 to make recommendations on the contents of the list.

Florida's "Endangered and Threatened Species Act of 1977" further underscored the State's commitment to wildlife preservation, and provided for the creation of an Endangered Species Advisory Council to formulate and recommend rules and policies for species research and management. (Chaired by Dr. Peter Pritchard of the Florida Audubon Society, the Council also serves to facilitate communications between various State agencies, private organizations, and the public.)

Program Direction

The management and protection of Florida's endangered species is carried out primarily through two State agencies, the Florida Game and Fresh Water Fish Commission and the Department of Natural Resources.

Organizationally falling under the Commission, the State's endangered Species Program is administered by Don A. Wood, Endangered Species Coordinator, with the assistance of three biologists and an information/education specialist. For Fiscal Year 1978 (ending June 30, 1979), the Commission's program is budgeted at \$155,000, with two-thirds appropriated out of Federal matching funds. (Of the

Commission's overall operating budget, two-thirds is derived from hunting and fishing licensing and permits, with the remainder coming from the general revenue.)

For the 4-year period through FY 1980, the Service has approved the allotment of \$540,000 in Federal grant-in-aid assistance to boost the Commission's conservation efforts. Though not yet approved, substantial assistance is also slated for the Florida Department of Natural Resources, which has jurisdictional responsibility for the State's resident manatees and sea turtles (and other marine species).

Not all is well, however, with Florida's Endangered Species Program, as budgetary constraints have diminished the Commission's ability to effect truly comprehensive endangered species conservation. While requests were made to more than double the scope of the current program, the Florida State Legislature upped endangered species appropriations only 5.5 percent for FY 1979. (Significant increases have again been requested to enlarge by two-fold the program's spending authority for FY 1979-80 and to increase its manpower by 11 positions.) Many needed cooperative agreement projects have thus been made possible only through one-third matching fund backing from the National Wildlife Federation, Florida Power and Light, and other private organizations.

Rodent Survey

Another significant find during this year's mammal surveys came with data on Florida's most endangered rodent, the Silver (or Cudjoe Key) rice rat (*Oryzomys argentatus*). Now described as a full species, the rat has thus far been found in only one tiny freshwater marsh on Cudjoe Key. Only seven specimens of this species have ever been observed, and five of those during the current study. Researchers are continuing intensive live-trapping of the other four freshwater marshes in the Keys to determine the species' true distributional limits, but a request for emergency Federal listing of the rodent will probably be warranted.

Based on the results of yet another
(continued on page 5)

Service Steps Up Manatee Recovery Efforts



Though enemy to no one, the Florida population of West Indian manatee (*Trichechus manatus*) is declining in numbers, due primarily to man's activities.

As many as 1,000 of these mammals persist in Florida's coastal waters and waterways, where they nibble on water hyacinth and other vegetation (up to 100 pounds a day). But this past year, manatee losses numbered close to 100. Water control structures, habitat destruction, and even pollution have been identified as threats to the species, but Federal officials estimate that more than 50 percent of all human-related manatee mortality is attributable to boat strikes.

Manatees are in greatest danger during the winter months, when they congregate in warm waters near natural springs or powerplant thermal discharges. In large numbers, they are more likely to be harassed and injured by boats and curious divers. Some animals have been driven to colder waters where they are subjected to cold water stresses that may threaten their survival.

Federal/State Regulatory Efforts

In an attempt to boost protection and recovery of the Florida manatee, a close working relationship has been established between the Service and Florida State agencies. Florida's Governor Reuben Askew signed a new Manatee Sanctuary Act in June of this year, designating the entire State as a sanctuary for this endangered sirenian. The law calls for the development of State regulations to reduce boat strikes on manatees through the control of boat operations (and speeds) in nine manatee wintering areas (see Florida State report on page 2).

The Service is also readying protective regulations for the manatee. A proposal empowering the Director of the Service to establish protection areas, where boat operations may be curtailed or prohibited when necessary to protect manatees, is expected to be published by the end of December. Extensive areas along the Atlantic and Gulf Coasts of Florida (in addition to several freshwater streams) were earmarked for Federal protection as manatee "Critical Habitat" by the Service

in a September 1976 ruling.

The first Federal regulations to restrict boat speeds specifically for manatee protection went into effect on November 20, 1978, at the Merritt Island National Wildlife Refuge, where boat traffic moving through two channel areas is now restricted to "Slow speed/Minimum wake." The controls will help protect the manatees, which are year-round residents of the refuge, from boat strikes.

Service law enforcement officials have been working with State officers in an effort to keep all parties informed of protective regulations as well as violations and needed investigations. Equipment to facilitate manatee protection, including diving and communications hardware and a jet boat to permit shallow-water patrols without the danger of propeller injury to manatees, has been provided to Service agents.

On another front, biologists in the Service's Division of Ecological Services (in Florida and Georgia) have received special training enabling them to recognize potentially hazardous situations for manatees. This will equip them to pinpoint manatee problems associated with water development projects during their review of proposed permits or construction projects such as dredging, so that sound protective recommendations can be made. Good working relationships have been established with the Army Corps of Engineers and the U.S. Coast Guard.

Recovery Plan Drafted

This past spring, the Service reactivated its recovery team for the manatee. Its members are now putting the final touches on their technical review draft of the Manatee Recovery Plan, developed from scratch following the team's first meeting in May. The plan will chart a course for recovery of the species under Endangered Species Program auspices, guiding allocation of State and Federal funds for manatee protection and pointing up the most critical research and management needs.

Meetings to coordinate manatee conservation efforts have been jointly sponsored by the Florida Marine Patrol and the Service, and a Manatee Work-

ing Group has been formed from those interested individuals and agencies attending. (Persons interested in exchanging information on manatee activities and related agency conservation efforts should contact the U.S. Fish and Wildlife Service, 900 San Marco Blvd., Jacksonville, Florida 32207, to be placed on the list for meeting notices.)

Research

The Service has been intensifying its ongoing research program on behalf of the West Indian manatee through its National Fish and Wildlife Laboratory. For Fiscal Year 1979, the lab plans to devote \$225,000 to manatee research with the following objectives:

- Determine mortality causes through the salvage program (with assistance from the University of Miami, under contract).
- Develop tagging and tracking technology (partly in conjunction with contract work with the University of Minnesota).
- Study the influence of warm-water effluents on the distribution and movement of manatees around powerplants.
- Determine basic behavioral and reproductive characteristics of manatees. (Life history data on manatees is meager.) Much of this work is being done in the Crystal River, Blue Springs, and Merrit Island areas.
- Determine ecosystem relationships of the manatee, especially the effects of vegetation and other ecological components on the distribution of manatees.
- Determine their sensory and physiological characteristics.
- Determine distribution and status of all taxa of sirenians (including the West Indian manatee, Amazonian manatee (*Trichechus inunguis*), West African manatee (*T. senegalensis*), and dugong (*Dugong dugon*)).
- Analyze parasites and environmental contaminants in manatees and dugongs.

Manatee Hot Line

Both the State and the Service are working to publicize the plight of the manatee and to enlist public support for its protection. With substantial assistance from the Service, the State plans to launch an extensive educational campaign on behalf of the species. Florida now sponsors a special MANATEE HOT LINE (toll free 800-342-1821) for reporting manatee injuries and deaths and violations of protective laws.

In addition, the Service is preparing several public service announcements on the manatee for television viewers.

State Report

(continued from page 3)

rodent survey conducted under agreement with the Service, Florida officials fear the Goff's pocket gopher (*Geomys pinetus goffi*) may be extinct. Following intense aerial and ground surveys, as well as discussions with farmers and other local landowners, no evidence of the subspecies has been found in Brevard County. One last survey will be conducted in the spring to determine if the gopher still survives.

Status surveys are also underway for the Key Largo cotton mouse (*Peromyscus polionotus decoloratus*), Key Largo wood rat (*Neotoma floridana smalli*), Choctawhatchee beach mouse (*Peromyscus polionotus allopheys*), Perdido Bay beach mouse (*Peromyscus polionotus trissyllepsis*), and Lower Keys cotton rat (*Sigmodon hispidus exspatus*). All of the rodent surveys are being conducted under the supervision of Dr. Steve Humphreys of the University of Florida, which contributed the entire State matching share of funding for the project.



Fish & Wildlife Service Photo

A Dusky seaside sparrow.

Sparrow in Trouble

Another of Florida's rarest subspecies, the Dusky seaside sparrow (*Ammodramus maritima nigrescens*), has become the subject of emergency attention in recent months. The Service's annual census this spring yielded no duskies on Merritt Island, where a few had previously persisted, while only 24 males and no females were counted on the mainland in the remainder of the bird's range. The Commission has requested an emergency amendment to its grant-in-aid assistance program and is now soliciting private support to match Federal dollars in the hope of saving the sparrow.

At an estimated cost of \$140,000 for the 2 years through FY 1980, Florida's recovery measures would include:

- use of a saturation survey technique to determine the true status of the dusky.

- studies of closely related subspe-

cies to determine probable limiting factors and why the dusky has declined so drastically.

- development of captive breeding methodology using surrogate subspecies as prototypes.

Pelican Transplants

Several other federally-listed birds indigenous to Florida are receiving priority attention with the assistance of Federal matching funds. In an attempt to restore the Florida Eastern brown pelican (*Pelecanus occidentalis carolinensis*) to a portion of its former range, Florida ships approximately 100 of the birds annually to Louisiana, where the pelican was extirpated in 1961. The States will cooperatively monitor the bird's progress and limiting factors on the newly established colonies in Louisiana.

To insure the perpetuation of pelicans in Florida, State officials are also monitoring its status and productivity, investigating mortality, and diagnosing the causes and effects of losses on the overall population. The maintenance of a wide distribution should guard against extinction of the pelican, a species that has been extremely susceptible to environmental pollution (as evidenced by severe eggshell thinning in California as the result of DDE).

Based on annual surveys since 1969, the Florida brown pelican population is believed stable, with this year's total the second largest since the surveys began. Nearly 8,000 active nests were observed.

Bald Eagle Counts

The figures are in on last winter's bald eagle (*Haliaeetus leucocephalus*) nesting season. Commission surveys, together with counts by the National Park Service and U.S. Forest Service, revealed 1977-78 nesting season grand totals of 319 active eagle territories, with 182 successful nests producing 262 young (1.44 young per successful nest, and 0.82 young per active territory). Nesting productivity was somewhat lower this year than last.

Everglade Kite

Recent nesting failures and the emigration of Florida Everglade kites (*Rostrhamus sociabilis plumbeus*) southward from customary habitat near Lake Okeechobee has sparked the concern of Florida endangered species managers. To determine what may have precluded nesting success (only 47 percent of nests in the Lake Okeechobee area were successful this spring), and what may be prompting the population's movement, Florida

has asked for additional Federal funding to assist Service biologist Noel Snyder in studying the problem.

Alligator: Studies and Conflicts

The expanding population of American alligators (*Alligator mississippiensis*) presents the State of Florida with some tough management decisions. While Florida continues to protect the federally-listed species, the campaign against "nuisance" gators has mounted to the point that the Commission now spends \$250,000 a year answering complaints and removing problem alligators.

To meet the needs of both humans and alligators, the Florida Game and Fresh Water Fish Commission is assessing the population numbers and distribution of American alligators to insure their perpetuation in the State while determining whether the species may be reasonably managed as a harvestable resource.

In its continuing attempt to get a handle on the number of alligators occurring in Florida, the Commission has thoroughly tested one major survey technique. The result is a publication by Allan R. Woodward of the University of Florida entitled "An Evaluation of Factors Affecting Night Light Counts of Alligators."

Data on alligator movements and habitat selection by age and size class are being collected on Orange Lake through radio telemetry. Investigators are continuing to monitor 12 alligators fitted with radio transmitters, and have attached 10 additional lithium-powered radio collars to mature animals. A prototype cotton-web collar, which eventually rots and falls off the alligator, will soon be tested on 6 adults and a dozen juvenile alligators.

The animal's productivity has also been studied in north central Florida for the period 1974-1977 to provide information on population dynamics and to determine factors affecting nesting success in different habitat types. Based on a sampling of 111 alligator nests in the Orange and Lochloose Lakes and Payne's Prairie Preserve, most nesting has been found to occur in marshy lakes (surveyed aerially in June and July, when most nests were completed). Nest measurements, clutch counts, predation rates, hatching activities, and other pertinent data were recorded subsequent to egg-laying. Researchers David C. Deitz and Tommy C. Hines have summarized their study findings in a report entitled "Alligator Nesting in North-Central Florida."

Nuisance alligator control measures were initially taken in a pilot program limited to six northeastern and central

(continued on page 6)

State Report

(continued from page 5)

counties. Under the plan, permits were issued to specially screened trappers to take problem alligators, with the contracted trapper receiving 70 percent of the sale price of the skin (auctioned twice a year, and bearing a Commission tag). The Commission then received the remaining 30 percent to defray administrative expenses. (No other parts of the animal could be sold.)

The trial program was considered so successful that the Florida legislature authorized statewide control of nuisance gators in May 1978. Only animals greater than 4 feet long are now being taken, with the average problem alligator measuring 7 to 8 feet in length. Most of the 4,000 complaints received since the inception of the fullscale program were from residents in the central portion of the State north of the Everglades. As of December 1, 1978, more than 1,800 alligators had been taken by cooperators in the State program. The central Florida area (with residences surrounding small lakes), the Everglades region with its numerous canals, and the developed residential strip along the southeast coast have been the main problem areas.

As a last item, the State hopes to obtain sociological as well as biological data to apply in alligator management, and has measured the public attitude toward alligators in Florida. Among other things, the poll revealed that while a vast majority (92 percent) perceived alligators as a valuable component of the environment, 73 percent harbored some degree of fear of them. At least 50 percent favored some type of limited harvest.



American alligator.

American Crocodile

Commission surveys this year of the American crocodile (*Croodylus acutus*) brought to 18 the total number of known nests in the U.S. Seven of the nests are located in the Key Largo area, while the remainder—in Everglades National Park—have been known about for some time. (Surveys are continuing.)

Other Reptiles and Amphibians

The 1978 survey of suitable habitats for the Florida Pine Barrens tree frog (*Hyla andersoni*) has turned up 17 new localities for the amphibian, all in Walton County, as well as evidence of the frog in Santa Rosa County. The known distribution of the frog in Florida has thus been significantly expanded. Surveys will resume in the 1979 spring breeding season.

During the same reporting period, areas were surveyed for the presence of the Atlantic Salt Marsh water snake (*Nerodia fasciata taeniata*), two specimens of which were observed near New Smyrna Beach.

Several rare reptiles and one amphibian are native to highland areas undergoing extensive agricultural and residential development. Investigators will attempt to document the degree of habitat loss and identify areas that warrant preservation for a number of herps.

Endangered Fishes

Studies of the status, distribution, and life history patterns of the Okaloosa darter (*Etheostoma okaloosae*), Shoal bass (*Micropterus sp.*), and Lake Eustis pupfish (*Cyprinodon variegatus hubbsi*) were conducted during the year. While much data have been collected, they are still in the preliminary stage. Full results and management recommendations will not be available until the end of FY 1980.

Special Protection for the Manatee

November 1978 was proclaimed by Florida's Governor Reuben Askew as Manatee Awareness Month. With this proclamation, the Governor launched a 5-year educational program on behalf of the marine mammal, urging citizens to join in the effort to protect manatees in the State's coastal waters and waterways.

Florida passed a new Manatee Sanctuary Act this past June, designating the species as the official State marine mammal and establishing the entire State as a sanctuary and refuge for manatees. (The species has received protection in Florida since the 1890's.) The law prohibits all harmful

Status Review of Louisiana Alligators Underway

Because of the increasing numbers of American alligators in Louisiana, the Service believes that a review of the species' status throughout the State is now warranted to determine if additional changes in the alligator's classification should be proposed (F.R. 10/2/78).

Any technical reports and biological information on the alligator's status in Louisiana should be submitted by December 26, 1978.

acts to manatees and calls for the development of regulations to restrict boat operations and speeds in manatee wintering areas within nine Florida counties. (Hearings on the State's proposed regulations are scheduled near the affected areas, with seven to be held in December and another six after the first of the year.)

With two-thirds Federal matching fund assistance from the Service, Florida is planning a 5-year program of increased enforcement and public education on behalf of the manatee under its Department of Natural Resources at an estimated total cost of \$1 million. In addition to printing thousands of posters calling for protection of the mammal, manatee bumper stickers, T-shirts, brochures, and billboards are being prepared as part of the State's educational campaign. With the assistance of the Florida Power and Light Company, the State is placing about 500 signs near power plants and in other warmwater areas warning boaters to be on the look out for concentrations of the animals.

Florida Power and Light is also funding a Florida Audubon study of the distribution and movement of manatees around the company's powerplants, as well as a Service study of year-round movements and behavior of the mammals in the vicinity of two company powerplants in the Titusville area.

The first of its kind MANATEE HOT LINE (toll free 800-342-1821) has been established through the Florida Marine Patrol so that any sightings of manatee injuries or deaths can be promptly reported, in addition to recommendations of areas needing increased protection.

Sea Turtles

The Department of Natural Resources has also been involved in sea turtle research and conservation for some years (marine turtles have been

(continued on page 9)

Rulemaking Actions

No proposed or final rulemakings were published during the months of October and November, due to curtailment of program activities until enactment of amendments to the 1973 Act (and reauthorization) on November 10 (See October 1978 BULLETIN) and, subsequently, because of the new listing and related requirements contained in the new amendments.

Consideration is now being given to deleting those pending proposed rulemakings dealing with Critical Habitat determinations and reproposing them to comply with the amendments' requirements. No existing listing proposals (exclusive of Critical Habitat) will be withdrawn; however, some of these will require supplementation. Additionally, listing activities for foreign species will not be affected by the new listing requirements or economic impact considerations stipulated during the Critical Habitat determination process, as no Critical Habitat may be designated outside the territorial United States.

(As a result of this finding, we are now pleased to report on the Service's September proposal to list the Bolson tortoise, a species occurring only in Mexico.)

Bolson Tortoise Proposed as Endangered



In a September notice, the Service proposed listing the Bolson tortoise (*Gopherus flavomarginatus*) of Mexico as an Endangered species (F.R. 9/26/78).

The tortoise is the largest land reptile in North America, with adult shells measuring as large as 1 meter in length. Despite its size, the reptile is one of the least known in the Northern Hemisphere, where it is now confined primarily to grasslands in portions of the Mexican States of Chihuahua, Coahuila, and Durango.

The Service was petitioned to list the tortoise by Dr. David Morafka of California State University-Dominguez, who has reviewed the species' status and biology throughout its range.

Many Threatening Factors

Habitat destruction through the plowing and irrigation of fields is a serious threat to the tortoise, and it is feared that increasing conversion of prime habitat areas to agricultural use will accelerate the extirpation of the species. Irrigation of once arid grasslands has also encouraged overgrazing by cattle and goats, resulting in the destruction of browse needed by the tortoise as well as the trampling of its burrows and cover sites.

Extensive hunting of the tortoise by local people for use as food is also a major cause of the species' decline, as is the collection of specimens by private individuals, zoos, and museums. The Bolson tortoise is listed on Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora, requiring the issuance of a statement from the species' country of origin certifying that its export will not be detrimental to its continued existence in the wild before it may be imported into the U.S. or other party nations. However, enforcement of these international treaty restrictions and Mexican attempts to issue permits for collection of the species have been lacking.

Listing of the tortoise under the Endangered Species Act would give it additional protection by limiting the purposes for which it could be imported, and would also promote the development of U.S.-Mexico cooperative conservation programs for the reptile.

Comments from the public and the Government of Mexico on the Service's proposal should be submitted to the Director by December 25, 1978.

Reclassification of Alligator Proposed

(continued from page 1)

carry specified information as to their contents.

Sale of Alligator Meat and Hide Export Considered

Louisiana has recently adopted controls over the sale of alligator meat through licensing and recordkeeping requirements. While the sale of meat from lawfully taken alligators is now prohibited under the 1973 Act, the Service also proposes to allow the sale of meat under existing State regulations to preclude the wastage of this valuable source of protein.

Finally, the Service is also proposing to allow the export of American alligator products taken within the 12 parishes under existing provisions of the Act *contingent upon* the reclassification of the species from Appendix I to Appendix II of the Convention on International Trade in Endangered Species of Wild Flora and Fauna. The U.S. has recently proposed such a change in the alligator's status under the appendices (see story on page 1), which would remove the absolute restriction on commercial trade and allow the issuance of export permits for certain acceptable purposes. Because of the Service's concern over the lack of control over possible smuggled skins, the Service is soliciting recommendations from the public on the question of whether to allow reimport of hides or products (should export be allowed).

Comments on the Service proposal should be submitted to the Director (LE) no later than December 26, 1978.

NMFS Proposes Critical Habitat for Kemp's Ridley and Loggerhead

The National Marine Fisheries Service, having jurisdiction for listed marine turtles while they are in the water, has proposed Critical Habitat for the Kemp's ridley (*Lepidochelys kempii*) and loggerhead (*Caretta caretta*) sea turtles in the Port Canaveral navigation channel, Cape Canaveral, Florida (F.R. 10/4/78).

A public hearing on the proposal was scheduled for December 12 (in a supplemental notice, F.R. 11/27/78), and the comment period on NMFS' proposal has been extended

to January 20, 1979.

In an emergency ruling, NMFS has designated the proposed Critical Habitat as a Restricted Fishing Area, prohibiting all shrimp trawling in these waters for a 120-day period (F.R. 11/22/78).

Kindly consult the respective *Federal Register* notices or the Assistant Administrator for Fisheries, National Marine Fisheries Service, (NOAA, U.S. Department of Commerce, Washington, D.C. 20235) for additional information on the Critical Habitat proposal.

U.S. Proposes Changes to Convention Appendices

(continued from page 1)

their first session in 1976 (see F.R. 3/22/78 for the review criteria). The Service emphasizes that, following the receipt of additional information from the public on the species involved, the U.S. can withdraw any of its proposals prior to action by the Convention parties.

The Management Authority's proposals are summarized below. Both an import and export permit are required for the international shipment of species listed under the Convention's Appendix I, and may only be issued upon a finding by the country's scientific authority that no detriment to the survival of the species in the wild will result from such trade. For Appendix II species, only an export permit is required, with similar findings by a scientific authority. (Most of the birds involved in Service-proposed removals from the appendices are protected under other Federal laws.)

- Mexican duck (*Anas diazi*): Remove from Appendix I. The Mexican duck has hybridized with the mallard (*Anas platyrhynchos*) to the point that it is now considered a subspecies of mallard. (Pure "Mexican ducks" (*Anas platyrhynchos diazi*) now exist only in Mexico's central highlands, where there are no evident threats to their numbers.)

- Marsh hawk (*Circus cyaneus*): Remove from Appendix II. With an estimated population of 122,000 in the conterminous U.S. in 1975, the hawk's status appears to be improving. Protected as a migratory bird, international trade poses no significant threat to the species' continued existence.

- Mearns' quail (*Cyrtonyx montezumae mearnsi*): Remove from Appendix II. Population levels of this subspecies are increasing in Arizona (supporting an annual harvest of 37,400 birds a year between 1972-76). While the bird is hunted for sport in the U.S. and Mexico, there is no record of international trade.

- Sparrow hawk or kestrel (*Falco sparverius*): Remove from Appendix II. This raptor's population was estimated at 300,000 in 1975, and 1976 figures show the use of 0.1 percent of the birds for falconry. There is apparently little international trade in the species.

- Bobcat (*Lynx rufus*): Remove from Appendix II. Based on available information, the Management Authority estimates that there are 750,000 to 1,000,000 bobcats in the U.S., generally throughout their historic range (although the species has disappeared or

become scarce from certain areas of the country). Improved management by the States in addition to evidence on bobcat distribution, abundance, and harvests, prompted the Service recommendation.

- Osprey (*Pandion haliaeetus*): Remove from Appendix II. On the decline until recent years, the osprey population appears to be on the upswing, based on nesting surveys and fall migration counts. Trade is not considered a threat to the species.

- Greater prairie chicken (*Tympanuchus cupido pinnatus*): Remove from Appendix II. Although reduced or extirpated from some parts of its range, the prairie chicken's population is now estimated at 1 million. The species is protected in several States, and is not threatened by international trade.

- Atlantic sturgeon (*Acipenser oxyrinchus*): Move from Appendix I to Appendix II. Long exploited in the U.S., this sturgeon was nearly extirpated as the result of overfishing, water pollution, and the damming of rivers. It has been suggested that the species' populations are increasing on the Atlantic coast. Trade is not considered a threat to its continued existence.

- American alligator (*Alligator mississippiensis*): Move from Appendix I to Appendix II. Following its protection under the Endangered Species Act, alligator populations have recovered significantly in portions of the Southeastern U.S. Transfer of the alligator to Appendix II would permit the controlled harvest of wild alligators for the international market, so long as such export from the U.S. is not determined detrimental to the species' survival in the wild, and consistent with other Federal and State protective laws (see accompanying story on page 1).

- Southern sea otter (*Enhydra lutris nereis*): Move from Appendix I to Appendix II. The sea otter was driven nearly to extinction by the fur trade in the late 1800's. The population has slowly increased to about 1,800 animals and now receives some State and Federal protection. The Service does not believe international trade will pose a threat to the species' survival.

- Peale's peregrine falcon (*Falco peregrinus pealei*): Move from Appendix I to Appendix II. This species of peregrine, which occurs in the Aleu-

tian Islands and along North America's northwest coast, has not suffered marked declines (as have other peregrines), and shows good reproductive success. The bird is rarely utilized for falconry, and the Service believes an Appendix II listing would more properly reflect the species' current status.

- Bald eagle (*Haliaeetus leucocephalus*): Move Alaskan population from Appendix I to Appendix II. While the bald eagle has continued to decline in numbers in the conterminous United States, its Alaska population appears stable with 7,000-7,500 breeding pairs reported there in 1972. Except for taking for Indian ceremonial purposes, the eagle's major threats are limited to habitat disturbance, pesticide contamination, and unlawful shooting. (Trade is not a factor.)

- Northern elephant seal (*Mirounga angustirostris*): Move from Appendix I to Appendix II. Brought to near extinction by commercial hunting in the late 1800's, this seal has recovered substantially with U.S. and Mexican protection. Current estimates put the population at 50,000 animals, prompting the Service's proposal.

- Golden eagle (*Aquila chrysaetos*): Move Eastern U.S. population from Appendix II to Appendix I. This species of eagle is widely distributed, with stable populations reported west of the Mississippi River. However, the eastern population—recommended for increased protection from trade—is down to about 10 breeding pairs.

- Guadalupe fur seal (*Arctocephalus townsendi*): Move from Appendix II to Appendix I. Considered extinct around the end of the 19th century, the only known population is now up to about 1,000 animals. Despite this increase, the species remains vulnerable because of its localized and accessible population and the value of its fur. Thus, the recommendation for increased Convention protection.

- American crocodile (*Crocodylus acutus*): Move U.S. population from Appendix II to Appendix I. The American crocodile is becoming rare in most parts of its range, with the only U.S. population in Florida estimated at 200-400 individuals in 1976. Of these, only 25 were known to be breeding females. The Florida population is proposed for increased protection.

- Bolson tortoise (*Gopherus flavo-marginatus*): Move from Appendix II to Appendix I. Severely impacted by human predation, habitat destruction and collection, both the Mexican and U.S. Governments believe increased protection is warranted for this largest of terrestrial North American reptiles.

The Service's proposal also included recommendations that the following species listings on Appendix II

carry annotations to the effect that the inclusion of certain populations is to insure effective control in other species (consult rulemaking for details): Goshawk (*Accipiter gentilis*), golden eagle, gray wolf (*Canis lupus*), Puma (*Felis concolor*), Bighorn sheep (*Ovis canadensis*), and grizzly and brown bears (*Ursos arctos*). Justification of the Service's determinations in opposition to amendment of the appendices was also presented for the following species: Lake sturgeon (*Acipenser fulvescens*), river otter (*Lutra canadensis*), lynx (*Lynx canadensis*), sei whale (*Balaenoptera borealis*), fin whale (*Balaenoptera physalus*), and gray whale (*Eschrichtius robustus*).

Final revisions of the appendices lists can be made only after consideration and a two-thirds' majority vote of the 47 countries now party to the international treaty. Comments on the Service's proposal should be submitted to the Director (WPO) no later than January 15, 1979.

Public Invited to Discuss U.S. Positions Under Convention

Three days of public meetings have been scheduled for the presentation and discussion of U.S. positions and proposals for consideration at the March meeting of the parties to the Convention on International Trade (see story on page 1).

The U.S. Management Authority (officially the Service's Wildlife Permit Office) plans to host a meeting on January 31 to discuss recommended changes to the lists of species protected under the treaty's appendices and procedures for amending the lists. The following day, the public will again be invited to a discussion of the following Convention issues (and pertinent U.S. positions): humane transport, identification manual, hybrids, look-alikes, scientific exchange, IWC relationships, documentation, illegal trade, listing of rare species, seeds and cut flowers, parts and derivatives, and financing of the Convention Secretariat.

Finally, on March 8 the public is welcome to attend a briefing on the U.S. positions on all of the above matters.

Confirmation of dates as well as times and locations for the meetings will be published very shortly in the *Federal Register*. (For more information, contact Joan Caton in the Service's Wildlife Permit Office, 703-235-2418.)

State Report

(continued from page 6)

protected in the State since the early 1900's, and has conducted nesting surveys on the east coast since 1971. Green sea turtle (*Chelonia mydas*) eggs have been collected and the hatchlings nursed in a "headstart" environment, reducing predation and increasing the otherwise small chances for hatchlings survival. About 1,800 green sea turtles are reared annually under the State's headstart program.

The Department soon plans to undertake a comprehensive survey and protection program on behalf of its sea turtles. Inclusive of matching fund assistance from the Service, the \$327,000 effort will provide for the (1) establishment of standard nesting survey methods, (2) protection of nests to insure maximum hatching success in the wild, and (3) restocking of suitable nesting habitat through headstarting.

Recovery Planning

In addition to the projects earmarked for special funding under the cooperative agreement program, Don Wood intends to insure that the implementation of Service recovery plans—now in preparation for 13 Florida species—will take top priority, once they are completed and approved in final form.

State specialists serve on most of the Service teams established to map the recovery of the following federally-listed Florida species:

Eastern Brown pelican

Kirtland's warbler (*Dendroica kirtlandii*)
Florida Everglade kite
Okaloosa darter
West Indian manatee
Red-cockaded woodpecker (*Picoides borealis*)
Indiana bat (*Myotis sodalis*) and
Gray bat (*Myotis grisescens*)
Dusky seaside sparrow
Florida panther
American crocodile
American alligator
Peregrine falcon (*Falco peregrinus*)

Emphasis on Education

The Game and Fresh Water Fish Commission is also working to develop an effective endangered and threatened species educational program. Video tapes, slide and film presentations, and various other programs have been developed for presentation to public gatherings as well as both private and public schools.

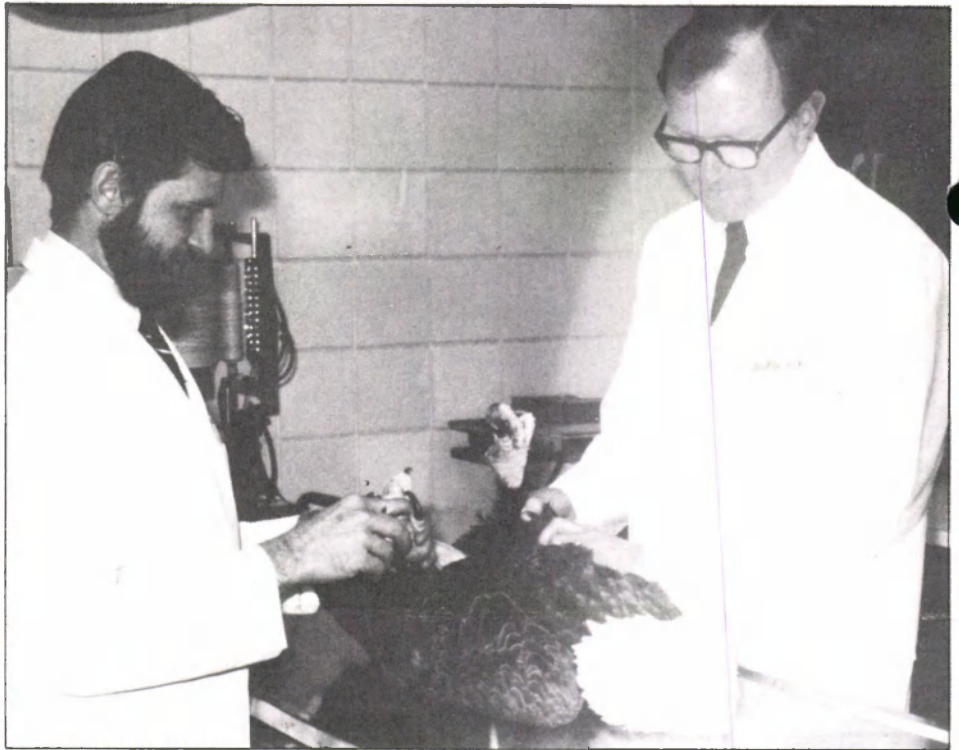
Four of the planned seven volumes in a series entitled "Rare and Endangered Biota of Florida" are complete. Volumes on mammals, birds, amphibians and reptiles, and fish should be available from the Commission by the first of the year. (Yet to be completed are those on plants, invertebrates, and recommendations and liaison.) The series was developed by the Florida Committee on Rare and Endangered Plants and Animals.



American crocodile was photographed in the cooling canals of the Fla. Power & Light plant at Turkey Point.

Florida Power & Light Co. photo

Pilot Rehabilitation Program Boosts Raptor Survival



Patrick Redig (left) and Gary Duke received the Service's Silver Eagle Award as well as the American Motors Conservation Award in 1976 for their pioneering rehabilitation efforts.

This past June, five young bald eagles blown down from their Wisconsin nests were rushed to a nationally known veterinary facility at the University of Minnesota for special care. Following the surgical repair of two broken legs, the eaglets were nursed to health and—by the end of July—had all been fostered out and readily adopted by adult nesting eagles.

This successful rehabilitation story is but one of hundreds to be told by Drs. Gary Duke and Patrick Redig, who, for over 6 years, have clinically treated ill and injured raptors under a pioneer research and rehabilitation program at the University's College of Veterinary Medicine at St. Paul, Minnesota. Since 1972, when Duke began the program by taking in crippled raptors as research subjects, the rehabilitation center has treated some 1200 birds of prey. Recent estimates show that their efforts have saved the lives of 75 percent of the raptors brought to them for care, and about 40 percent have been successfully released.

According to Redig, a doctor of veterinary medicine and research fellow at the University who treats most of the injured birds, about a third of his patients—both juveniles and adults—have been hit by automobiles. Shooting accounts for another 20 percent of the injuries, as does maiming from steel-jaw trap. (The incidence of trap injuries is highest for eagles, who often lose one or both feet in the leg-hold devices.) Power lines and plate

glass windows also cause many accidents, and, in early summer, hatchlings are often injured in falls from their nests.

Of the 29 raptor species treated since January 1972, red-tailed hawks (*Buteo jamaicaesis*), great-horned owls

(*Bubo virginianus*), kestrels (*Falco sparverius*), and bald eagles (*Haliaeetus leucocephalus*) were most frequent residents of the center.

Project Mission

Duke and Redig have piloted the



This prairie falcon chick, whose leg was broken during banding efforts, is almost ready for release.

program in line with four major objectives:

- providing clinical care for ill or injured raptors and releasing rehabilitated birds back into wild populations.
- gathering information about raptors through research on their physiology, typical diseases they carry, responses of the birds to anesthetics and various therapeutic drugs, their blood chemistry, and their genetic relationships.
- providing opportunities for training of veterinary students in the treatment of avian injuries.
- fostering public education on the ecological value of raptors.

Along with their more obvious achievements in successfully rehabilitating scores of raptors (including about 120 Endangered or Threatened birds), the project leaders emphasize the importance of biomedical research associated with the program. "Perhaps our foremost accomplishment," Redig believes, "is the development of improved techniques for drug use—especially in anesthetizing birds without a high mortality rate." The researchers use turkeys as their "white rats" in determining use parameters (especially in studying the effects of anes-

thetics and drugs to combat fungal diseases of the avian respiratory system), and then apply their research in treating raptors.

Costs are Minimal

With operating expenses at around \$22,000 a year, the program is boosted with financial assistance from the Service, two local foundations (the Mardag of St. Paul and Walker of Minnesota), the Whirlpool Corporation, and private donations. Major costs are the radiographs at \$5.00 each (all birds are X-rayed at least once). Surgical hardware and other laboratory costs are minor, as are expenses for food (they most often use discarded lab animals). Special cases can be costly, though. Twenty white pelicans (*Pelecanus erythrorhynchos*) successfully rehabilitated and released after their near destruction in a hail storm during migration were fed exclusively on fish (which had to be purchased).

Other Benefits

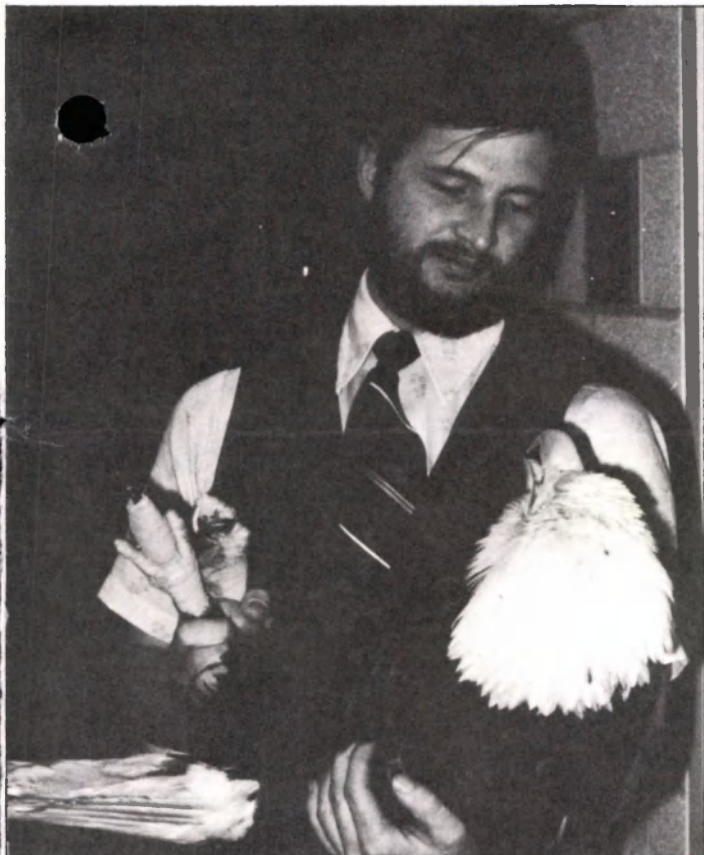
The two project leaders are hopeful that their research and other efforts have benefitted raptors not only from knowledge gained about their physiology and nutritional/medical needs,

but also through a positive change in public attitude toward the birds of prey.

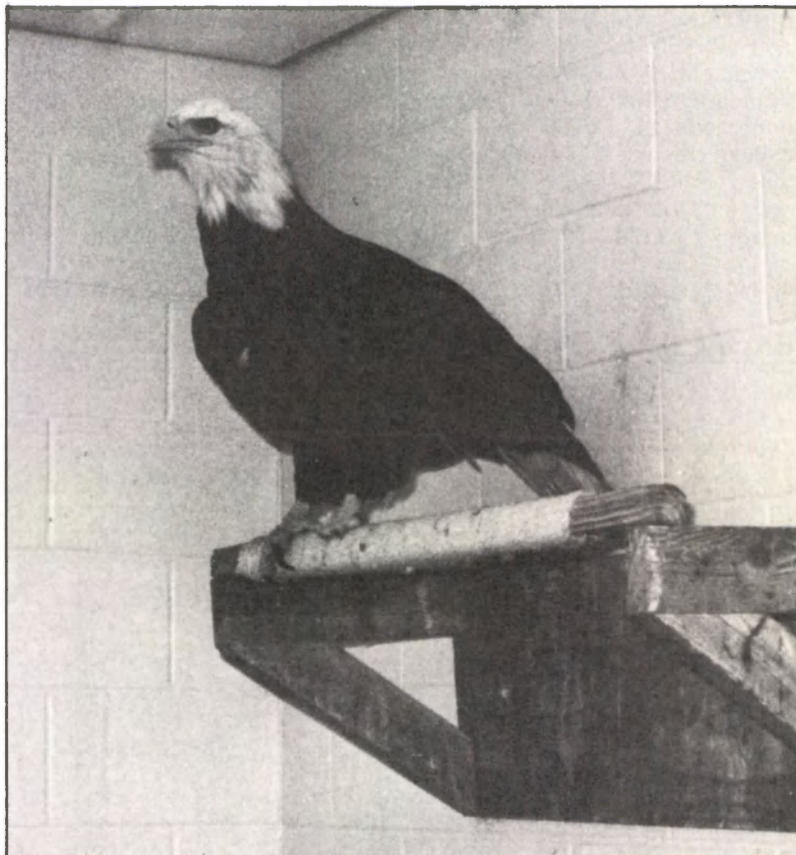
They also look forward to the application of their research in assessing the health of wild raptor populations (of special importance for declining species), and in the management and captive breeding of raptors such as the critically Endangered California condor (*Gymnogyps californianus*).

Duke and Redig (and assistants) are now actively assisting the Service's Patuxent Wildlife Research Center in the physical reconditioning of five of its peregrine falcons (*Falco peregrinus*), a process that could take months. The raptors are being readied for release in suitable habitat in the Eastern U.S. some time this spring. (Redig has treated four injured peregrines already this fall (two should survive), and believes the unusually high number may be an indication of the bird's increasing numbers and/or range.)

When asked how many more birds they could accommodate for treatment at the center, Redig commented: "We have about 70 in now—more residents than usual. But I couldn't say there is a limit. We always seem to find room for one more."



While well on its way to recovery, the eagle in the arms of veterinarian Redig did not survive. Like many trap victims, the bird suffered edema (swelling) of the heart valves after the trauma of entrapment. Infection set in to the wounded toes; traveling in the bloodstream to the malfunctioning valves, and resulting in heart failure.



This bald eagle lost the toes on the front of its left foot in a leghold trap. Although all three toes had to be partially amputated, the bird was successfully rehabilitated and released on July 21st in Rinelander, Wisconsin, with the assistance of the Service and the Wisconsin Department of Natural Resources.

all photos by Dona Finnley

Alligator Smuggling Investigation Concluded

Jail sentences and fines totaling \$87,500 for three men and three corporations have resulted from a major wildlife law enforcement case involving the illegal commercialization of more than 2,500 hides of Endangered American alligators (*Alligator mississippiensis*).

Jacques Klapisch was sentenced November 17 in the U.S. District Court, Eastern District of New York, to 4 months imprisonment and fined \$10,000 on one count of conspiracy to violate the Lacey Act. Klapisch illegally purchased the skins in the Southeastern United States, transported them to New York, and shipped them to tanneries in Japan and France.

Meg Import Corporation was fined \$39,000 on 12 counts of violating the Lacey Act by shipping hides out of the U.S. using false and fictitious documents. Co-laborers Egawa International and Gunze, also New York import/export firms, were fined \$12,500 and \$21,000, respectively, for their involvement in the smuggling operation. William Greenblatt and Kiyoshi Egawa each received \$2,500 fines, and John Kelley was sentenced to 4 months in jail.

The convictions resulted from investigations conducted by special agents of the U.S. Fish and Wildlife Service and U.S. Customs Service since 1974.

BOX SCORE OF SPECIES LISTINGS

Category	Number of Endangered Species			Number of Threatened Species		
	U.S.	Foreign	Total	U.S.	Foreign	Total
Mammals	33	227	260	3	18	21
Birds	67	144	211	3		3
Reptiles	11	47	58	10		10
Amphibians	5	9	14	2		2
Fishes	29	10	39	12		12
Snails	2	1	3	5		5
Clams	23	2	25			
Crustaceans	1		1			
Insects	6		6	2		2
Plants	20		20	2		2
Total	197	440	637	39	18	57

Number of species currently proposed: 158 animals
1,850 plants (approx.)

Number of Critical Habitats proposed: 73

Number of Critical Habitats listed: 33

Number of Recovery Teams appointed: 64

Number of Recovery Plans approved: 18

Number of Cooperative Agreements signed with States: 22

November 30, 1978

Upcoming Bald Eagle Counts

The National Wildlife Federation is coordinating its first annual wintering bald eagle count in January. Persons wishing to help count eagles on or about January 20th should contact the Federation's Raptor Information Center (c/o National Wildlife Federation, 1412-16th Street, N.W., Washington, D.C. 20036), or call the Center directly on 703-790-4264.

This information will ultimately

assist the Service in developing conservation programs for the species.

Tennessee Publication

"The Rare Vascular Plants of Tennessee," prepared by the Committee for Tennessee Rare Plants, may be obtained by writing to B. Eugene Wofford, Department of Botany, University of Tennessee, Knoxville, TN 37916.



ENDANGERED SPECIES TECHNICAL BULLETIN

Department of the Interior • U.S. Fish and Wildlife Service • Endangered Species Program, Washington, D.C. 20240



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